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AUTHOR	Cleary, T. Anne; McCandless, Sam A.
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ABSTRACT

Scholastic Aptitude Test (SAT) scores have declined during the last 14 years. Similar score declines have been observed in many different testing programs, many groups, and tested areas. The declines, while not large in any given year, have been consistent over time, area, and group. The period around 1965 is critical for the interpretation of score changes: it is at that time that almost all declines started or became larger. Score declines generally have increased steadily with the ages of the students. In the early elementary grades, scores have generally remained stable or increased; most declines have been observed in the upper secondary grades. The drop in scores in the SAT and the American College Testing Program (ACT) have been comparable or far greater than the declines observed in representative samples of students in a given grade or age level. The SAT and ACT declines have been greater for women than men, and greater for verbal than mathematical scores. The most pronounced declines have been observed in social studies, perhaps due to the difficulty of testing knowledge in an area in which so many different curricula are available. Scores on language skills tests have declined more rapidly than scores on tests of mathematical skills. (Author/EVH)

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Summary of Score Changes (in Other Tests)

T. Anne Cleary
Sam A. McCandless
College Board

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SUMMARY OF SCORE CHANGES*

Let us now consider the information we have on testing programs other than the SAT. In Table 4 we have a compendium of the data that we have been able to collect about other testing programs. Tests are separated by general subject matter, and the observed changes are indicated by plus or minus signs. An attempt has been made to express the observed changes in terms of standard deviation units per year, with three minuses, for example, indicating 3 percent a year, two minuses 2 percent a year. This was done to avoid confusion among the different score scales on which test results are reported.

Score declines have been observed in so many different groups and so many tested areas that serious attention must be devoted to them. The declines have not been large in any given year, but they have been quite consistent over time, area, and group.

The period around 1965 is a critical one for the interpretation of score changes: it is at that time that almost all the score declines started or became larger. The fact that score declines began to be observed at many different grade levels and different subject areas at the same time is impressive and requires that all hypothesized causal agents must be evaluated in terms of their ability to affect all grades and all tested areas at about the same time.

Score declines generally have steadily increased as the ages of the students have increased. In the early grades of elementary school, scores have generally remained stable or increased; most declines have been observed in the upper grades of secondary school.

The decline of scores on the major college admissions tests (ACT and SAT) has been far greater than the declines observed in samples designed to represent all students in a given grade or age level.

The overall decline in scores on the major college admissions tests (ACT and SAT) have been comparable (about 3 percent of a standard deviation per year) since 1965; in both test programs the declines have been greater for women than for men and greater for verbal than mathematical scores; the two programs differ in that the ACT standard deviations have shown a steady increase since 1965, whereas the SAT standard deviations have remained constant.

Among the various tested areas, the most pronounced declines have been observed in social studies, but these declines can probably be attributed to the increasing difficulty of testing knowledge in an area in which so many different curriculums are available.

Scores on tests measuring language skills have declined more rapidly than scores on tests measuring mathematical skills.

*Excerpt from T. Anne Cleary and Sam A. McCandless, "Score Declines and Grade Inflation," pp. 90-107 in Northwest Association of Schools and Colleges, Proceedings, Annual Convention, December 1976. Seattle, Wash.: Northwest Association of Schools and Colleges, 1977.

Table 4. Summary of Score Changes

General Ability

Test	Source	Population	Years	Observed changes	Comments
ACT Composite	Crockett (1976)	ACT college-bound	1965-76	---	The decline is about 3 percent of a standard deviation per year, but is greater for females (4 percent) than males (2 percent).
ITED Composite	University of Iowa (1971)	9, 10, 11, & 12 grade	1957, 1962, 1971	Stable	The 1971 norm studies are based on 35,000 students nationally selected.
ITED Composite	Munday (1976)	Iowa grades 9, 10, 11, 12	1962-66	+	
ITED Composite	Munday (1976)	Iowa grades 9, 10, 11, 12	1967-74	--	The amount of decline increases as grade increases.
SRA Achievement Series-Composite . . .	Raju (1976)	Grade 8	1971, 1975	-	Data based on schools that happened to have administered the test.
SRA Achievement Series-Composite . . .	Raju (1976)	Grade 6	1971, 1975	Stable	Data based on schools that happened to have administered the test.
SRA Achievement Series-Composite . . .	Raju (1976)	Grade 4	1971, 1975	++	Increase of about 2 percent of a standard deviation per year. Data based on schools that happened to have administered the test.

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Table 4. Summary of Score Changes (continued)

General Ability (continued)

Test	Source	Population	Years	Observed changes	Comments
SRA Assessment Surveys					
Composite Score . . .	SRA 1974	Grades 2-8	1962, 1971	Stable	
Metropolitan Readiness					
Test Composite . . .	Harcourt, Brace, Jovanovich	Grade 1	1964, 1974	+	
Language Skills					
ACT English	Crockett (1976)	ACT college-bound	1965-76	---	The decline was greater for females (about 5 percent of a standard deviation per year) than for males (about 3 percent of a standard deviation per year).
SAT-verbal	College Board	SAT college-bound	1956-63	Stable	Although the population size was increasing, apparently more and more able students were being drawn into the SAT pool or students in general were becoming more able.

(continued)

Table 4. Summary of Score Changes (continued)

Language Skills (continued)

Test	Source	Population	Years	Observed changes	Comments
SAT-verbal	College Board	SAT college-bound	1963-67	--	Population size was increasing, growing to two-thirds of the college-bound population. It is quite likely that during this time less able students were drawn into the college-bound pool. The decline is equivalent to about 2 percent of a standard deviation per year.
SAT-verbal	College Board	SAT college-bound	1967-76	----	The most marked SAT-Verbal decline has been observed in this period: about 4 percent of a standard deviation per year. The decline is greater for females than for males.
PSAT/NMSQT-verbal	Jackson and Schrader (1976)	Grade 11	1960, 1966, 1974	Stable	A slight decline observed 1966 and 1974
PSAT/NMSQT-verbal	College Board	PSAT/NMSQT high school juniors	1959-75	Stable	If one considers that the PSAT merger with NMSQT drew more able students into the pool and that the scale drift (Modu and Stern, 1965) slightly inflates scores in recent years, a small decline has been observed.

(continued)

Table 4. Summary of Score Changes (continued)

Language Skills (continued)

Test	Source	Population	Years	Observed changes	Comments
MSAT	Perry and Swanson (1974)	Minnesota high school juniors	1959-66	+	
MSAT	Perry and Swanson (1974)	Minnesota high school juniors	1966-73	--	Decline is about 2 percent of a standard deviation per year. Until 1965, MSAT scores were increasing, but number of candidates was also increasing. A new form was introduced in 1966.
ITED Reading	University of Iowa (1971)	9, 10, 11, & 12 grades	1957, 1962, 1971	Stable	
ITED Language Arts	University of Iowa (1971)	9, 10, 11, & 12 grades	1957, 1962, 1971	Stable	
ITED English	Feldt (1976)	Iowa grades 9, 10, 11, 12	1965-74	--	Decline is about 2 percent of a standard deviation per year.
ITED Literature . . .	Feldt (1976)	Iowa grades 9, 10, 11, 12	1965-74	---	Decline increases as grade increases reach about 3 percent of a standard deviation per year in grade 12.
ITED Vocabulary . . .	Feldt (1976)	Iowa grades 9, 10, 11, 12	1965-74	-	Decline increases as grade increases reach about 2 percent of a standard deviation per year in grade 12.

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Table 4. Summary of Score Changes (continued)

Language Skills (continued)

Test	Source	Population	Years	Observed changes	Comments
NAEP Functional Literacy	NAEP (1975a)	17-year-old students	1971, 1974	+	
NAEP Writing Mechanics	NAEP (1975c)	17-year-old students	1969, 1974	-	
NAEP Writing Mechanics	NAEP (1975c)	13-year-old students	1969, 1973	-	
NAEP Writing Mechanics	NAEP (1975c)	9-year-old students	1970, 1974	Stable	
TALENT English . . .	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	--	The decline was greater for females than for males.
TALENT Reading Comprehension	Flanagan and Jung (1971)	Grade 10 students	1960, 1970	Stable	
TALENT Reading Comprehension	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	Stable	Although the 1975 sample is relatively small, it may indicate that Flanagan and Jung's 1960-70 comparison missed a peak in the mid-sixties.

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Table 4. Summary of Score Changes (continued)

Language Skills (continued)

Test	Source	Population	Years	Observed changes	Comments
TALENT Vocabulary . .	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	---	The decline was greater for males than for females.
Iowa Basic Skills Reading	Hoover (1974)	Iowa grades 4, 5, 6, 7, 8	1965-72	--	The amount of decline increases as grade increases. The rate of decline increases with time until about 1970 when the scores stabilize.
Iowa Basic Skills Reading	Hoover (1974)	Iowa grade 3	1965-72	Stable	
SRA Assessment Survey Language Arts	SRA 1974	Grades 2-8	1962, 1971	Stable	
SRA Assessment Survey Reading . . .	SRA 1974	Grades 2-8	1962, 1971	Stable	
Mathematics					
Iowa Basic Skills Math Problems	Hoover (1974)	Iowa grades 4, 5, 6, 7, 8	1965-72	--	The amount of decline increases as grade increases. The rate of decline increases with time until about 1970 when the scores stabilize.

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Table 4. Summary of Score Changes (continued)

Mathematics (continued)

Test	Source	Population	Years	Observed changes	Comments
TALENT Quantitative Reasoning	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	-	
TALENT Mathematics	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	Stable	
TALENT Computation	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	--	Decline is about 2 percent of a standard deviation per year.
ITED Quantitative Thinking	Feldt (1976)	Iowa grades 9, 10, 11, 12	1965-74	--	Decline increases as grade increases reach slightly more than 2 percent of a standard deviation per year in grade 12.
ACT Mathematics . . .	Crockett (1976)	ACT college-bound	1965-76	---	The decline is at the rate of about 3 percent of a standard deviation per year and is slightly greater for females than males.
SAT-mathematical . .	College Board	SAT college-bound	1956-63	Stable	Although the population size was increasing, apparently more and more able students were being drawn into the SAT pool or students in general were becoming more able.

(continued)

Table 4. Summary of Score Changes (continued)

Mathematics (continued)

Test	Source	Population	Years	Observed changes	Comments
SAT-mathematical . .	College Board	SAT college-bound	1963-67	-	Population size was increasing, growing to two-thirds of the college-bound population. It is quite likely that during this time less able students were drawn into the college-bound pool.
SAT-mathematical . .	College Board	SAT college-bound	1967-76	--	The most marked SAT-Mathematical decline has been observed in this period: about 2 percent of a standard deviation per year.
PSAT/NMSQT-mathematical	Jackson and Schrader (1976)	Grade 11	1960, 1966, 1974	Stable	
PSAT/NMSQT-mathematical	College Board	PSAT/NMSQT high school juniors	1959-75	Stable	If one considers that the PSAT merger with NMSQT drew more able students into the pool and that the scale drift (Modu and Stern, 1965) slightly inflates scores in recent years, a small decline has been observed.
ITED Math	University of Iowa (1971)	9, 10, 11 & 12 grades	1957, 1962, 1971	Stable	

(continued)

Table 4. Summary of Score Changes (continued)

Science

Test	Source	Population	Years	Observed changes	Comments
ACT Natural Science	Crockett (1976)	ACT college-bound	1965-76	Stable	
ITED Science	University of Iowa (1971)	9, 10, 11, & 12 grades	1957, 1962, 1971	Stable	
ITED Natural Sciences	Feldt (1976)	Iowa grades 9, 10, 11, 12	1965-74	-	Decline increases as grade increases reach about 2 percent of a standard deviation per year in grade 12.
NAEP Science	NAEP (1975b)	9-, 13-, 17-year-old students	1969, 1972 or 1970, 1973	-	The decline at each age level is about 2 percentage points which is equivalent to about half a year of learning experience.
SRA Assessment Survey Science . . .	SRA 1974	Grades 4-8	1962, 1971	Stable	

Social Studies

ACT Social Studies	Crockett (1976)	ACT college-bound	1965-76	----	This is the most rapid decline observed, about 5 percent of a standard deviation per year with women declining more than 6 percent per year.

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Table 4. Summary of Score Changes (continued)

Social Studies (continued)

Test	Source	Population	Years	Observed changes	Comments
ITED Social Studies	University of Iowa (1971)	9, 10, 11, & 12 grades	1957, 1962, 1971	Stable	
ITED Social Studies	Feldt (1976)	Iowa grades 9, 10, 11, 12	1965-74	---	Decline increases as grade increases reach almost 3 percent of a standard deviation per year in grade 12.
SRA Assessment Survey Social Studies . . .	SRA 1974	Grades 4-8	1962, 1971	Stable	
Special Abilities					
ITED Sources of Information	University of Iowa (1971)	9, 10, 11 & 12 grades	1957, 1962, 1971	Stable	
ITED Sources of Information	Feldt (1976)	Iowa grades 9, 10, 11, 12	1965-74	--	Decline increases as grade increases reach almost 2 percent of a standard deviation per year in grade 12.

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Table 4. Summary of Score Changes (continued)

Special Abilities

Test	Source	Population	Years	Observed changes	Comments
TALENT Abstract Reasoning	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	++	
TALENT Creativity . .	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	++	The increase was greater for females than males.
TALENT Mechanical Reasoning	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	-	Males decreased slightly while females increased.
TALENT Visualization	Flanagan (1976)	Grade 9, 10, 11 students	1960, 1975	Stable	
Iowa Basic Skills Use of References . .	Hoover (1974)	Iowa grades 3-8	1965-72	Stable	
SRA Assessment Survey Use of Sources . . .	SRA 1974	Grades 4-8	1962, 1971	Stable	

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